

WHAT IS CLAIMED IS:

1. A bicycle derailleur comprising:
  - a shiftable portion configured and arranged to move between a top position and a low position; and
  - a chain guide coupled to said shiftable portion to be laterally moved by said shiftable portion, said chain guide including
    - an inner guide plate having an inner attachment end and an inner free end,
    - an outer guide plate having an outer attachment end and an outer free end that are arranged to form a chain receiving slot between said inner and outer guide plates,
    - a guide pulley rotatably coupled between said inner and outer attachment ends of said inner and outer guide plates, and
    - a tension pulley rotatably coupled about a rotation axis between said inner and outer free ends of said inner and outer guide plates, said tension pulley having an annular recess disposed about said rotation axis of said tension pulley to form a projection,
    - said inner guide plate having a guide section with a radially outermost edge of said guide section located in said annular recess, said projection projecting in an axial direction further from a center plane of said tension pulley than said outermost edge of said guide section.
2. The bicycle derailleur according to claim 1, wherein said chain guide includes an annular, cup-shaped dust cap mounted axially between said inner guide plate and said tension pulley about said rotation axis.
3. The bicycle derailleur according to claim 2, wherein said dust cap includes a mounting portion and an annular portion extending from said mounting portion, said annular portion of said dust cap being located in said annular recess of said tension pulley and located radially inwardly of said guide section of said inner guide plate.
4. The bicycle derailleur according to claim 1, wherein

said guide section includes a sloped guide surface that extends from said outermost edge of said guide section toward said rotation axis, said sloped guide surface diverging from said center plane of said tension pulley as said guide surface approaches said rotation axis.

5. The bicycle derailleur according to claim 4, wherein said guide surface is substantially flat.

6. The bicycle derailleur according to claim 4, wherein said guide section includes a sloped interior surface substantially parallel to said sloped guide surface, said sloped interior surface being connected to said sloped guide surface at said outermost edge of said guide section.

7. The bicycle derailleur according to claim 4, wherein said sloped guide surface extends into said annular recess of said tension pulley at said outermost edge of said guide section

8. The bicycle derailleur according to claim 1, wherein said projection includes a sloped guide surface that diverges from said center plane of said tension pulley as said guide surface approaches said rotation axis.

9. The bicycle derailleur according to claim 8, wherein said projection includes an inner facing surface that extends radially inwardly from an axially innermost end of said sloped guide surface.

10. The bicycle derailleur according to claim 9, wherein said sloped guide surface and said inner facing surface are substantially flat.

11. The bicycle derailleur according to claim 9, wherein said projection includes an internal surface that extends axially toward said center plane of said tension pulley from said inner facing surface.

12. The bicycle derailleur according to claim 1, wherein

said guide section of said inner guide plate has a radial length that is at least about 25% of an overall radial width of said tension pulley.

13. The bicycle derailleur according to claim 12, wherein said annular recess has a radial length larger than the radial length of said guide section of said inner guide plate.

14. The bicycle derailleur according to claim 1, wherein said projection of said tension pulley includes a plurality of separate projecting members that are circumferentially disposed about said rotation axis.

15. The bicycle derailleur according to claim 1, wherein said projection of said tension pulley includes an annular projecting member extending about said rotation axis.

16. A bicycle derailleur comprising:  
a shiftable portion configured and arranged to move between a top position and a low position; and  
a chain guide coupled to said shiftable portion to be laterally moved by said shiftable portion, said chain guide including  
an inner guide plate having an inner attachment end and an inner free end,  
an outer guide plate having an outer attachment end and an outer free end that are arranged to form a chain receiving slot between said inner and outer guide plates,  
a guide pulley rotatably coupled between said inner and outer attachment ends of said inner and outer guide plates,  
a tension pulley rotatably coupled about a rotation axis between said inner and outer free ends of said inner and outer guide plates, said tension pulley having an annular recess disposed about said rotation axis of said tension pulley to form a projection projecting in an axial direction from a center plane of said tension pulley, and  
a dust cap coupled between said inner guide plate and said tension pulley, said dust cap having a mounting portion and an annular portion

extending from said mounting portion into said recess about said rotation axis,

said inner guide plate having a guide section with a radially outermost edge of said guide section located radially inwardly of said projection and radially outwardly of said annular portion of said dust cap.

17. The bicycle derailleur according to claim 16, wherein said guide section includes a sloped guide surface that extends from said outermost edge of said guide section toward said rotation axis, said sloped guide surface diverging from said center plane of said tension pulley as said guide surface approaches said rotation axis.

18. The bicycle derailleur according to claim 17, wherein said guide surface is substantially flat.

19. The bicycle derailleur according to claim 17, wherein said guide section includes a sloped interior surface substantially parallel to said sloped guide surface, said sloped interior surface being connected to said sloped guide surface at said outermost edge of said guide section.

20. The bicycle derailleur according to claim 17, wherein said sloped guide surface extends into said annular recess of said tension pulley at said outermost edge of said guide section

21. The bicycle derailleur according to claim 16, wherein said projection includes a sloped guide surface that diverges from said center plane of said tension pulley as said guide surface approaches said rotation axis.

22. The bicycle derailleur according to claim 21, wherein said projection includes an inner facing surface that extends radially inwardly from an axially innermost end of said sloped guide surface.

23. The bicycle derailleur according to claim 22, wherein

said sloped guide surface and said inner facing surface are substantially flat.

24. The bicycle derailleur according to claim 22, wherein said projection includes an internal surface that extends axially toward said center plane of said tension pulley from said inner facing surface.

25. The bicycle derailleur according to claim 16, wherein said guide section of said inner guide plate has a radial length that is at least about 25% of an overall radial width of said tension pulley.

26. The bicycle derailleur according to claim 25, wherein said annular recess has a radial length larger than the radial length of said guide section of said inner guide plate.

27. The bicycle derailleur according to claim 16, wherein said projection of said tension pulley includes a plurality of separate projecting members that are circumferentially disposed about said rotation axis.

28. The bicycle derailleur according to claim 16, wherein said projection of said tension pulley includes an annular projecting member extending about said rotation axis.